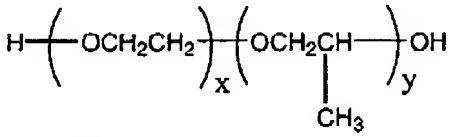
II. REMARKS

Claims 7-11 are currently pending in this application and stand rejected, claims 1-6 have been canceled. Claim 7 has been amended by rewriting in independent form, incorporating the recitations of claim 1. Claims 8-11 are amended to reflect proper dependency in view of the claim cancellations and to correct minor typographical errors. Accordingly, there is no issue of new matter.

III. OBJECTIONS

A. OBJECTIONS TO THE SPECIFICATION

The Examiner objects to the Abstract and Specification alleging that the chemical phrase "polyethylene glycol-ran-polypropylene glycol", particularly with respect to the inclusion of the term "ran", is unclear. This term is clear. Polyethylene glycol-ran-polypropylene glycol is a dihydroxy terminal copolymer of ethylene glycol and propylene glycol having the structure:



It is well known and sold by Aldrich Chemical Co. (*see* http://www.sigmaaldrich.com/). The "ran" type polymers are disclosed in U.S. patent no. 6,455,620 (issued Sept. 24, 2002). Accordingly, it is respectfully requested that these objections be withdrawn.

B. OBJECTIONS TO THE CLAIMS

The Examiner objects to claims 1, 8, and 10 based on minor typographical errors. Claim 1 is canceled. Claim 8 is amended to replace the incorrect term "polythylene" with the correct term "polyethylene" and claim 10 is amended to replace the incorrect term "polyhydroxybenzine" with the correct term "polyhydroxybenzene". Thus, Applicants respectfully request withdrawal of these objections.

IV. REJECTIONS UNDER 35 U.S.C. § 112

The Examiner rejects claim 8 under 35 U.S.C § 112 on the grounds that the chemical phrase "polyethylene glycol-ran-polypropylene glycol", particularly with respect to the inclusion

of the term "ran", is unclear. As discussed in Section III.A above, this term is clear. Thus, Applicants respectfully request the Examiner to withdraw this objection.

V. THE REJECTIONS UNDER 35 U.S.C. § 102

Claims 1-6 stand rejected under 35 U.S.C. 102 over U.S. patent no. 5,296,128 (issued Mar. 22, 1994) to M. Gernon *et al.* ("Gernon"). Claims 1-6 are canceled, thus this rejection is moot.

VI. THE REJECTIONS UNDER 35 U.S.C. § 103

Claims 7-11 stand rejected under 35 U.S.C. 103 over Gernon. Applicants respectfully request withdrawal of the 35 U.S.C. 103 rejections over Gernon because Gernon is deficient by itself, and it is improper to take official notice of "common knowledge" to remedy Gernon because of the complex nature of the claimed invention.

The Examiner concedes that Gernon is deficient with respect to claims 7-11 in that Gernon does not teach each of:

(1) the non-ionic surfactant "polyethylene glycol-block-polypropylene glycol" as recited in Applicants' claim 7;

(2) the non-ionic surfactant "polyethylene glycol-ran-polypropylene glycol" as recited by Applicants' claim 8;

(3) the non-ionic surfactant "polyethylene glycol-block-polypropylene glycol tetrol", as recited by Applicants' claim 9;

(4) the antioxidant "polyhydroxybenzene [*sic*]", as recited by Applicants' claim 10; and

(5) the grain refiner "acrylic acid" as recited by Applicants' claim 11.

The Examiner nonetheless alleges each of these teachings are well known and, therefore, can supplement the deficiencies of Gernon under the doctrine of "official notice" to render claims 7-11 obvious.

The Manuel of Patent Examining Procedure ("MPEP") states that it is proper, in limited circumstances, for the Examiner to take "official notice" of well known facts not on record or to rely on "common knowledge" in making a rejection. MPEP § 2144.03. The standard for taking official notice is "substantial evidence". In re Gartside, 203 F.3d 1305, 1315 (Fed. Cir. 2000). The MPEP notes that application of official notice should be rare and only where the facts

asserted to be well known or common knowledge are capable of instant and unquestionable demonstration as being well known. In re Alhert, 424 F.2d 1088, 1091 (C.C.P.A. 1970). Significantly, official notice with respect to chemical theory is not permitted. In re Grose, 592 F.2d 1161, 1167-1168 (C.C.P.A. 1979) ("[W]hen the PTO seeks to rely upon a chemical theory in establishing a prima facie case of obviousness, it must provide evidentiary support for the existence and meaning of the theory."). If Applicants adequately traverse the Examiner's official notice, the Examiner must allow the claims or provide documentary evidence in the next action. MPEP 2143.03(C). Official notice in this case goes beyond what is permissible. Examples of suitable facts for official notice are provided in the MPEP, for example, that "it is old to adjust the intensity of a flame in accordance with the heat requirement"; that "tape recorders commonly erase tape automatically when new audio information is recorded on a tape which already has a recording on it"; and that it is sometimes desirable to make something faster, cheaper, better, or stronger. MPEP 2144.03(A).

Applicants' invention provides electroplating solutions that provide bright tin-bismuth alloy solder coatings having a low organic (carbon) content. Applicants' solution is a complex mixture that provides current densities as high as 300 ASF. In this case, official notice that the subject chemical components can provide the complex physical and chemical interactions necessary to provide an improved electroplating solution is improper. Even if the officially noticed chemical components are well known for their particular purpose, as alleged by the Examiner (i.e., as non-ionic surfactants and antioxidants), official notice is improper because they are not well known with respect to Applicants' claimed invention. As far as Applicants know, it is not common knowledge in the art to use the officially noticed chemical components as part of a complex mixture in conjunction with a soluble tin sulfonate and a bismuth sulfonate and that provides improved electroplating solutions. In sum, Applicants respectfully request withdrawal of the 35 U.S.C. 103 rejections over Gernon because Gernon is deficient by itself, and it is improper to take official notice of facts to remedy Gernon.

VII. CONCLUSION

In view of the above amendments and remarks, Applicants have overcome all objections and rejections, and reconsideration is requested. No fee is required for entry of this Reply. If any fee is due, however, please charge the required fee to deposit account number **501358**.

Respectfully submitted,

44,994 /GEB

Glen E. Books
Reg. No. 24,950
Attorney for Applicants

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LOWENSTEIN SANDLER PC
65 Livingston Avenue
Roseland, NJ 07068
Tel.: 973-597-6162